

REMARKS/ARGUMENTS

Claims 1-38 remain pending in the application. Applicants preliminarily wish to thank the Examiner for reconsidering and removing all previous grounds for rejecting the claims.

I. INTRODUCTION

Applicants have invented novel biodegradable thermoplastic compositions that can be processed into a thermoplastic melt that is extruded, blown or cast into sheets and films having desired properties. Like conventional thermoplastic polymers, the thermoplastic compositions are heated so as to make them plastically deformable and then cooled in order to cause one or more thermoplastic polymers contained therein to solidify in order to yield a final sheet or film having desired properties. Unlike conventional thermoplastic polymers (*e.g.*, polyethylene, polypropylene, polyvinyl chloride, polyvinylidene chloride, polyvinyl fluoride, polyvinylidene fluoride, polyethylene terephthalate, and the like) the thermoplastic compositions of the present invention are biodegradable and can be processed or modified to have other properties not found in conventional sheets and films formed from.

II. PRIOR ART REJECTIONS

The Office Action rejects claims 1-8, 12 and 15-17 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,261,674 to Branham et al.¹; claims 1-38 under 35 U.S.C. § 103(a) as being unpatentable over Branham et al.; and claim 14 as unpatentable over Branham et al. in view of U.S. Patent No. 6,168,857 to Andersen et al.

For a claim to be anticipated, a single source must contain all of the elements of the claim. See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379, 231 USPQ 81, 90 (Fed. Cir. 1986); *Atlas Powder Co. v. E.I. du Pont De Nemours & Co.*, 750 F.2d 1569, 1574, 224 USPQ 409, 411 (Fed. Cir. 1984); *In re Marshall*, 578 F.2d 301, 304, 198 USPQ 344, 346 (CCPA 1978). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. See *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 USPQ 1264, 1271 (Fed. Cir. 1984). Moreover, the single source must disclose all of the claimed elements “arranged as in the claim.” *Richardson v. Suzuki Motor Co.*,

¹ Because Branham et al. is only citable under 35 U.S.C. § 102(a), Applicants do not admit that Branham et al. is in fact prior art, and reserve the right to “swear behind” it at a future time to remove it as a reference.

868 F.2d 1226, 9 USPQ.2d 1913, 1920 (Fed. Cir. 1989); *Connell v. Sears Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983).

When an examiner rejects a claim under 35 U.S.C. § 102, he has the initial burden of establishing anticipation. “[I]t is incumbent upon the Patent Office . . . to set forth clearly why it regards a claim to be anticipated” *In re Mullin*, 481 F.2d 1333, 1336, 179 USPQ 97, 100 (CCPA 1973). An examiner may not merely assert that a particular reference anticipates a claim. He must show where the cited reference teaches every claim limitation. *See In re Mullin*, 481 F.2d at 1336-37, 179 USPQ at 100.

A. Claim 1

Claim 1 has been amended to specify that the claimed article of manufacture comprises “a biodegradable sheet or film having a single layer”, which is formed “from a biodegradable thermoplastic composition that includes: (i) a thermoplastic portion consisting essentially of at least one thermoplastic biodegradable polymer” Amended Claim 1 (underlining to show additions). Branham et al. neither teaches nor suggests the article of claim 1. Branham et al. discloses a

microlayer polymer film comprising a plurality of coextruded microlayers including a first layer comprising a first melt-extrudable polymer and a second layer comprising a second melt-extrudable polymer, wherein the first melt-extrudable polymer has a first water vapor transmission rate and the second melt-extrudable polymer has a second water vapor transmission rate less than the first water vapor transmission rate.

Col. 1, lines 41-48. Each of the two layers is critical to the invention disclosed in Branham et al. so as to yield a film having desired properties of breathability, strength and liquid barrier properties. *See* col. 1, lines 48-52. Branham et al. neither teaches nor suggests a sheet or film comprising a single layer but implicitly teaches away from such because of the importance of having multiple layers formed from different polymers to impart certain desired properties to the layered film. *See* col. 1, lines 41-52. Branham et al. therefore neither anticipates nor renders obvious claim 1 for this reason alone.

Moreover, in order for the microlayer film of Branham et al. to have the desired properties, Branham et al. teaches that the second layer is made from materials that impart certain properties not provided by the first layer, namely the properties set forth at col. 1, lines

59-67. Branham et al. teaches that the “second, less breathable melt-extrudable polymers” used to form the second layer are made from “polyolefins such as homopolymers of polyethylene and propylene, copolymers of ethylene and propylene, polyethers, copolyethers, and mixtures thereof”. Col. 7, lines 1-6. Other polymers include polyethylene terephthalate (PET), polyvinyl chloride, polyvinyl fluoride, and the like. Col. 7, lines 7-10. Such materials are notoriously well-known to those of skill in the art (and non-skilled consumers alike) to be non-biodegradable. It is for this reason that disposable diapers that utilize materials such as those disclosed in Branham et al. are under fire by environmental groups. Because claim 1 defines a “biodegradable sheet or film”, but because the microlayer films of Branham et al. are made using a layer of a non-biodegradable polymer, claim 1 is neither anticipated by nor obvious over Branham et al. for this additional reason.

B. Claims 2-15 and 24-28

Because claims 2-15 and 24-28 depend from claim 1 they are patentable over Branham et al. for at least those reasons given above with respect to claim 1. They further include additional limitations that may further distinguish over Branham et al. and the art of record. For example, claim 14 recites the use of “thermoplastic starch”. Because starch is not easily made thermoplastic, and because neither Branham et al. nor Andersen et al. teach or suggest how to make polymer blends comprising thermoplastic starch, claim 14 is further patentable over the cited art for this additional reason.

Claim 15 recites that “the sheet or film comprises a food wrap”. In contrast, Branham et al. discloses microlayer films suitable for use in making “diapers, feminine care products, adult incontinence products, and training pants, and health care products such as wound dressings or surgical gowns.” Col. 2, lines 2-5. Thus, the microlayer films of Branham et al. hardly comprise a “food wrap”.

Claim 25 requires that “the particles that protrude from the surface of the sheet or film have particle size diameters that are greater than the thickness of the sheet or film”. Because the Office Action fails to show where this limitation is found in the art, the Office Action fails to state a *prima facie* rejection of this claim.

C. Claim 16

Claim 16 alternatively claims a sheet or film that is “textured by a knurled or embossing-type roller” to distinguish over sheets or films that may inherently be textured for some other reason. Amended claim 16 (underlining to show additions). Support for this limitation is found in the application at page 11, lines 15-16. Branham et al. neither teaches nor suggests sheets or films that are “textured by a knurled or embossing-type roller” for any reason whatever, let alone to yield a sheet or film that has “dead-fold of at least about 70%”. For this reason, claim 16 is neither anticipated by nor obvious over Branham et al.

D. Claims 17 and 29

These claims are patentable for at least those reasons given above for claim 16.

E. Claim 18

Claim 18 has been amended to recite a “sheet or film formed as a single layer” and that is “biodegradable”. Amended claim 18 (underlining to show additions). As discussed above, Branham et al. neither teaches nor suggests the manufacture of (1) a “sheet or film formed as a single layer” and (2) that is biodegradable. For this reason, claim 18 is neither anticipated by nor obvious over Branham et al.

F. Claims 19-23 and 30-31

These claims are patentable for at least those reasons given above for claim 18.

G. Claim 32

Claim 32 has been amended to recite “a single layer biodegradable sheet or film”. As set forth above, Branham et al. neither teaches nor suggests sheets or films that are (1) single layer and (2) biodegradable. For this reason, claim 32 is neither anticipated by nor obvious over Branham et al.

H. Claims 33-35

These claims are patentable for at least those reasons given above for claim 32 and other claims.

I. Claim 36

Claim 36 has been amended to recite a "single layer sheet or film formed by extruding, blowing or casting a thermoplastic melt formed from a biodegradable thermoplastic composition that consists essentially of at least one synthetic thermoplastic biodegradable polymer". Branham et al. neither teaches nor suggests (1) "a single layer sheet or film" that (2) is "formed from a biodegradable thermoplastic composition that consists essentially of at least one synthetic thermoplastic biodegradable polymer". For this reason, claim 36 is neither anticipated by nor obvious over Branham et al.

J. Claims 37-38

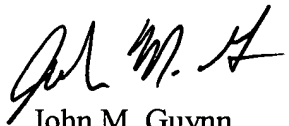
These claims are patentable for at least those reasons given above for claim 36.

III. CONCLUSION

In view of the foregoing, Applicants believe the claims as now presented are in allowable form. In the event that the Examiner finds any remaining impediment to the prompt allowance of this application, which could be clarified by a telephonic interview, or which is susceptible to being overcome by means of an Examiner's Amendment, the Examiner is respectfully requested to initiate the same with the undersigned attorney.

Dated this 18th day of April 2004.

Respectfully submitted,



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